

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017221**Date Inspected:** 30-Sep-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as hole restoration, and the following observations were made:

1E-pp9.5-E4-3

The QA Inspector randomly observed Jin Pei Wang performing grinding tasks of ultrasonic testing rejects in the above identified lifting lug deck hole restoration. The QA Inspector randomly observed the ABF welder had excavated both of the UT rejections located in the above identified hole. The QA Inspector randomly observed the ABF welder had previously completed one of the two excavations and one was currently in process. The QA Inspector randomly observed the Smith Emery (SE) Quality Control (QC) Inspector John Pagliero was on site to monitor and record the in process welding parameters. The QA Inspector noted the ABF welder was utilizing the shielded metal arc welding process with 1/8" E7018 low hydrogen electrodes. The QA Inspector randomly observed the ABF welder was utilizing 127 Amps while performing the SMAW repair. The QA Inspector performed a random visual inspection of the previously excavated areas and noted they had been ground and blended to a boat shaped weldable profile. The QA Inspector randomly observed and noted the ABF welder was preheating the material to approximately 150°F prior to making the SMAW repairs. The QA Inspector noted the SMAW repairs appeared to be in general compliance with ABF-WPS-1001 repair. The QA Inspector noted the repair welding was completed on the QA Inspectors shift. After the ABF welder completed the welding, he performed grinding tasks while removing the weld reinforcement flush with the top deck base material.

7E/8E-A1-A5

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Upon the arrival of the QA Inspector in the am it was observed the above identified weld joint was fit up with the approved temporary attachments or fit up gear in place. Upon the arrival of the QA Inspector, the QC Inspector Tony Sherwood informed the QA Inspector the planar misalignment inspection had been previously performed by SE QC and just required QA verification. The QC Inspector presented the QA Inspector with a planar misalignment map of the areas previously located by QC Tony Sherwood. The QA inspector noted the map indicated the only planar off set was located in the weld segment A1 and totaled 130mm. The QA Inspector reviewed the document and proceeded to perform the random QA verification of the weld joint. The QA Inspector observed approximately 2000mm in addition to what was previously located by the QC Inspector. It appeared the fit up gear had broken in weld segment A5 and the plates had shifted out of the previous position. The QA Inspector asked the ABF Welding Superintendent Dan Ieraci if he intended to correct the unacceptable planar misalignment (see summary of conversations). The QA Inspector randomly observed Mr. Ieraci and ABF welder James Zhen make several attempts to correct the off set areas by re-welding the broken fit up gear and driving additional pins to push one side of the deck downward. After several attempts it was observed by the QA Inspector no change in the unacceptable planar off set. The QA Inspector and the QC Inspector recorded the following locations of planar misalignment:

The unacceptable planar misalignment was located at the following 5 locations:

- 1.) y=0mm-1635mm (20mm deck section) 0mm-2mm misalignment (1635mm in length)
- 2.) y=25710mm-25915mm (20mm deck section) 0mm-2mm misalignment (205mm in length)
- 3.) y=26090mm-26345mm (20mm deck section) 0mm-2mm misalignment (255mm in length)
- 4.) y=26625mm-26855mm (20mm deck section) 0mm-2mm misalignment (230mm in length)
- 5.) y=27120mm-27280mm (20mm deck section) 0mm-2mm misalignment (160mm in length)

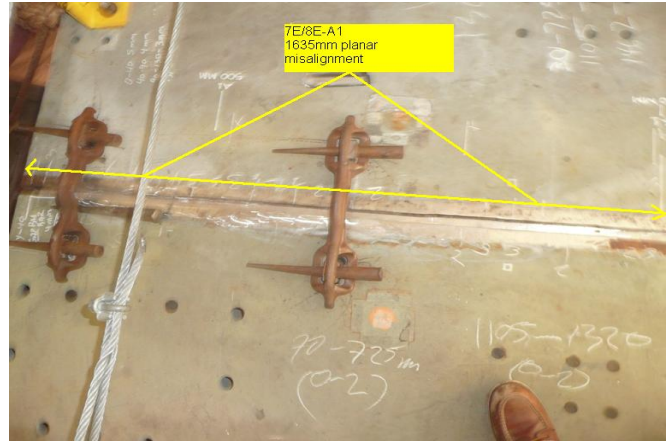
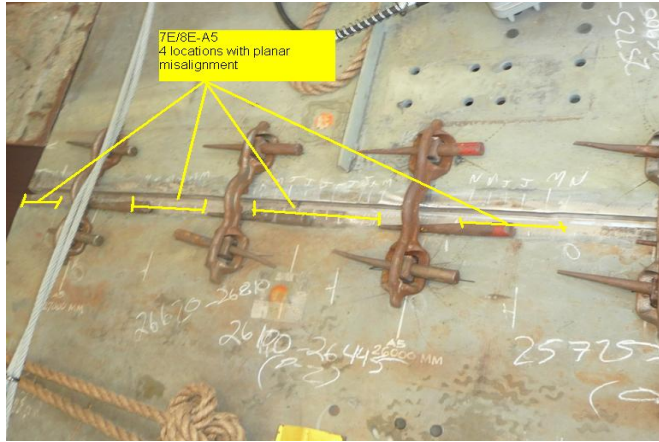
Total planar misalignment 2485mm of the total length of the weld joint.

The QA Inspector and the SE QC Inspector Tony Sherwood performed dimensional verification of the gaps at the steel backing. The QA Inspector noted the 11 separate areas where the gap at the steel backing exceeded 2mm. The QA Inspector noted the largest gap was 3mm and no gap exceeded 3mm for the above identified transverse weld splice. The QA Inspector was informed by these Lead QC Leonard Cross the contractor will write and submit an internal non conformance report in addition to a request to weld repair over the excessive gaps at the steel backing.

The QA Inspector noted the above identified locations will require engineering approval prior to performing any weld repairs. The QA Inspector noted the locations were submitted by SE to ABF and the approval was given by the Project Engineer Patrick Lowry (see summary of conversation)

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Summary of Conversations:

Mr. Ieraci informed the QA Inspector no additional fitting tasks would be performed due to the fact that ABF was breaking fit up gear. Mr. Ieraci informed the QA Inspector due to the rigidity of the top deck plate closed rib stiffeners, ABF was unable to perform any additional fitting tasks.

The QA Inspector spoke with the Lead QC Inspector Leonard Cross about the QC Inspector Tony Sherwood. The QA Inspector informed Mr. Cross the QC Inspector Tony Sherwood was making a habit of missing dimensional non conforming items such as planar misalignment or gaps at the steel backing that exceed 2mm. Mr. Cross informed the QA Inspector, the QC Inspector Tony Sherwood would no longer be performing the dimensional inspections along side the Caltrans Mets QA Inspector. Mr. Cross informed the QA Inspector the only Inspectors that shall be performing the dimensional inspection will be Bonifacio Daquinag or himself (Leonard Cross).

The QA Inspector was informed by the QA Task Lead Inspector Bill Levell, ABF was given the verbal approval to weld at 1320 per SMR Patrick Lowry.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

Inspected By: Bettencourt,Rick

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer